

M.V. "NANKAI MARU".

Nagasaki Report No.1869.

"NANKAI - MARU."

CONSTRUCTION PROFILE
AND DECK PLAN.

SCALE $\frac{1}{16}$ " = ONE FT.

445'-0" x 60'-6" x 40'-9"
(FINISHED PLAN.)



K. Kawada
Jan. 20th 1935.

006930-006941-0118

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006930-006941-0118

M.V. "NANKAI MARU".

Nagasaki Report No. 1869.

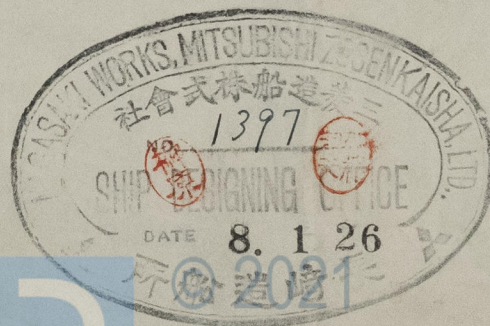
M.S. "NANKAI-MARU"

MIDSHIP SECTION.

445'-0" x 60'-6" x 40'-9"
SCALE 1/4 INCH TO ONE FOOT.
(FINISHED PLAN.)



H. Kawada
Jan. 14, 1933.



Lloyd's Register
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006930-006941-0119

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LLOYD'S CLASS 100 A.1 "WITH FREEBOARD."

N.B.:-

SECTIONS IN "M. DENOTE "JAPANESE STANDARDS."

" INCHES

"YAWATA SEITETSU STANDARDS"

PRINCIPAL DIMENSIONS			
LENGTH	(L)	445'-0"	
BREADTH MOULDED	(B)	60'-0"	
DEPTH	" TO UPPER DE	40'-0"	
LOADED DRAUGHT (FROM TOP OF KEEL)		28'-03"	
DEPTH "D" FOR SCANTLING NUMERALS	(D)	40'-75"	

SCANTLING NUMERALS			
1ST LONGITUDINAL NUMERAL	(L+D)	= 445' 40' 75" = 18.134	
2ND	"	L x (B+D) = 445' 101' 25" = 45.056	
PROPORTION TO UPPER DE	%D	= 445' 40' 75" = 10.92	

EQUIPMENTS & EQUIPMENT NUMBER			
EQUIPMENT NUMBER		45069	
LETTER		d+	

EQUIPMENTS			
3-BOWER ANCHORS STOCKLESS COLLECTIVE		232	CWT.
STREAM ANCHOR ORDINARY EX. STOCK		232	
STUD CHAIN CABLE	300 FMS.	2 1/2	DIA.
STEEL WIRE FOR STREAM ANCHOR	120 "	4 1/2	CIR (3/4 STRANDS)
TOW LINE STEEL WIRE	130 "	5 1/2	CIR (DE)
HAWSER MANILA	2 - 100 "	8	CIR.
WARPS	2 - 100 FMS.	8	CIR.

FORGING & CASTING			
STEM	(FORGED STEEL)	10 1/2	2 1/2
STERN FRAME, SHAFT BRACKET & RUDDER		13	PER PLAN.

KEEL & SHELL PANTING			
KEEL PLATE		55' x 85' ~ 75'	
BOTTOM "		67' ~ 52'	
SIDE "		65' ~ 49'	
BOSS "		75'	
F&E SIDE PLATE		44'	
SHEER STRAKE	69' x 78' (RULE SIZE 52' x 74') ~ 49'		
BELOW SHEER STRAKE	65' (RULE SIZE 52' x 70') ~ 49'		

ENGINE CASING			
COAMING PLATE		30' x 34' WHERE EXPOSED	
CASING "		20' x 30'	
COAMING ANGLE		75' x 75' x 7.5 A., 75' x 75' x 8.5 A. TOP ANG.	
STIFFENERS		75' x 65' x 7.5 A. 33' SPACED APART.	

DECK HOUSES			
COAMING PLATE	UPPER DECK	BRIDGE DECK	BOAT DECK
HOUSE PLATE	25'	25'	25'
COAMING ANGLE	150' x 90' x 9 A.	150' x 90' x 9 A.	150' x 90' x 9 A.
TOP	75' x 75' x 7.5 A.	75' x 75' x 7.5 A.	75' x 75' x 6.5 A.
STIFFENERS	90' x 75' x 8 A.	75' x 65' x 7.5 A.	75' x 65' x 6.5 A.
" SPACING	SPACED ABOUT 33' APART.		

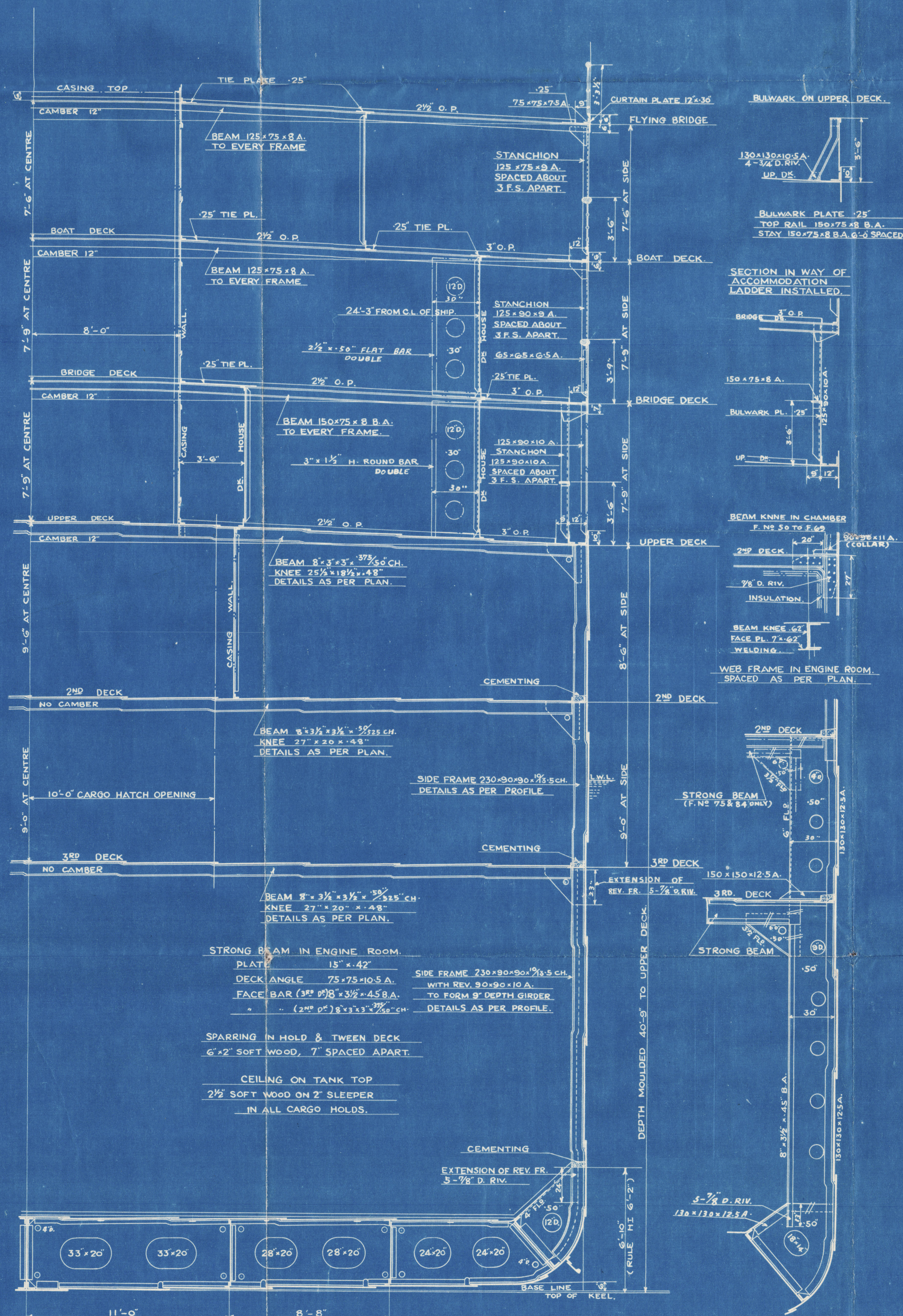
BILGE KEEL (115'-0" ABOUT AMIDSHIPS)			
PLATE		10 1/2' x 50' WITH 2 1/2' x 1 1/2" H.R.	
CONNECTING BAR		125' x 90' x 12.5 A.	
DEPTH OF GIRDER		13'	

DOUBLE BOTTOM			
	1/2 L. & ENDS	ENGINE SPACE	REMARKS
CENTRE	PLATE	46' x 62' ~ 48'	60' x 62'
GIRDER	KEEL ANGLE	130' x 130' x 16.5 A.	130' x 130' x 16.5 A.
	TOP	90' x 90' x 14 ~ 13 D.A.	90' x 90' x 14 D.A.
	VERT. "	90' x 90' x 12 A.	130' x 130' x 12 A.
SIDE	PLATE	44'	50' IN WAY OF MAIN ENGINE SEAT
GIRDER	TOP ANGLE	90' x 90' x 12 A.	
	BOTTOM "	D2	
	VERT. "	75' x 75' x 10.5 A.	130' x 130' x 12 A.
SOLID	PLATE	44'	
FLOOR	FRAME	90' x 90' x 12 A.	90' x 90' x 12 A.
	REV. FRAME	D2	STRENGTHENED OF F&E OF 1/2 L. & ENDS
WT. & O.T.	PLATE	52'	
FLOOR	BOUNDARY A.	90' x 90' x 13 A.	90' x 90' x 13 A.
	STIFFENER	90' x 75' x 12 A.	75' x 125' x 12 A.
INNER	M.L. STRAKE	56' x 56' ~ 46'	75'
	OTHER "	48' ~ 42'	56'
BOTTOM	MARGIN PL.	40 1/2' x 56'	56'
	TOP & SHELL A.	130' x 130' x 14 A.	130' x 130' x 14 A.

(1) DETAILS UNDER MAIN ENGINE SEATINGS AS PER SKETCH BELOW.
(2) TANK TOP PLATES FITTED TRANSVERSELY IN WAY OF BULKHEAD EXCEPT MARGIN PLATE & MIDDLE LINE STRAKE.

STRENGTHENING OF BOTTOM FORWARD.
FROM FORWARD OF 1/2 L. & ENDS TO COLLISION BULKHEAD.
PITCH OF RIVET IN FRAME TO BE 5 1/2" D. TWO COMPLETE ROW ON BOTH FLANGE) FRAME ANG. 130' x 130' x 12 A. & 150' x 150' x 13 A. WITH BACK BAR 150' x 90' x 13 A. FROM MARGIN PLATE TO MIDDLE LINE STRAKE & NOT IN SHORT LENGTH AND DETAIL AS PER INNER BOTTOM PLAN.
LENGTH AND DETAIL AS PER INNER BOTTOM PLAN.
INTL ADDITIONAL FULL 1/2" HT. SIDE GIRDERS TO BE FITTED AT ABOUT 3'-0" APART & EXTENDING AS FAR FORWARD AS PRACTICABLE.
FLOOR PLATE OR INTL SIDE GIRDERS NOT TO BE FLANGED. SHELL PLATING: THREE STRAKES NEXT THE KEEL TO HAVE MIDSHIP THICKNESS .60" MAINTAINED. (FORWARD TO RULE POSITION OF COLLISION B&D) & DOUBLING & INCREASE THICKNESS OF KEEL & SHELL PLATES TO BE SPECIALLY COMPENSATED AS PER PLAN.

RIVETING NOTE (EDGE CONNECTION)			
	1/2 L. & ENDS	AT ENDS	
KEEL PLATE	2 R.	2 R.	
BOTTOM PLATE	"	"	
SIDE PLATE	"	"	
SHEER STRAKE	"	"	
BELOW STRAKE	2 R.	2 R.	
F&E SIDE PLATE	"	1 R.	
TANK TOP	2 R.	2 R.	
M.L. STRAKE	"	"	
OTHER STRAKE	"	"	
MARGIN PLATE	2 R.	2 R.	
UP DE STRINGER PL.	1 R.	1 R.	
" " PLATE	"	"	
ALL OTHER DS PL.	1 R.	1 R.	

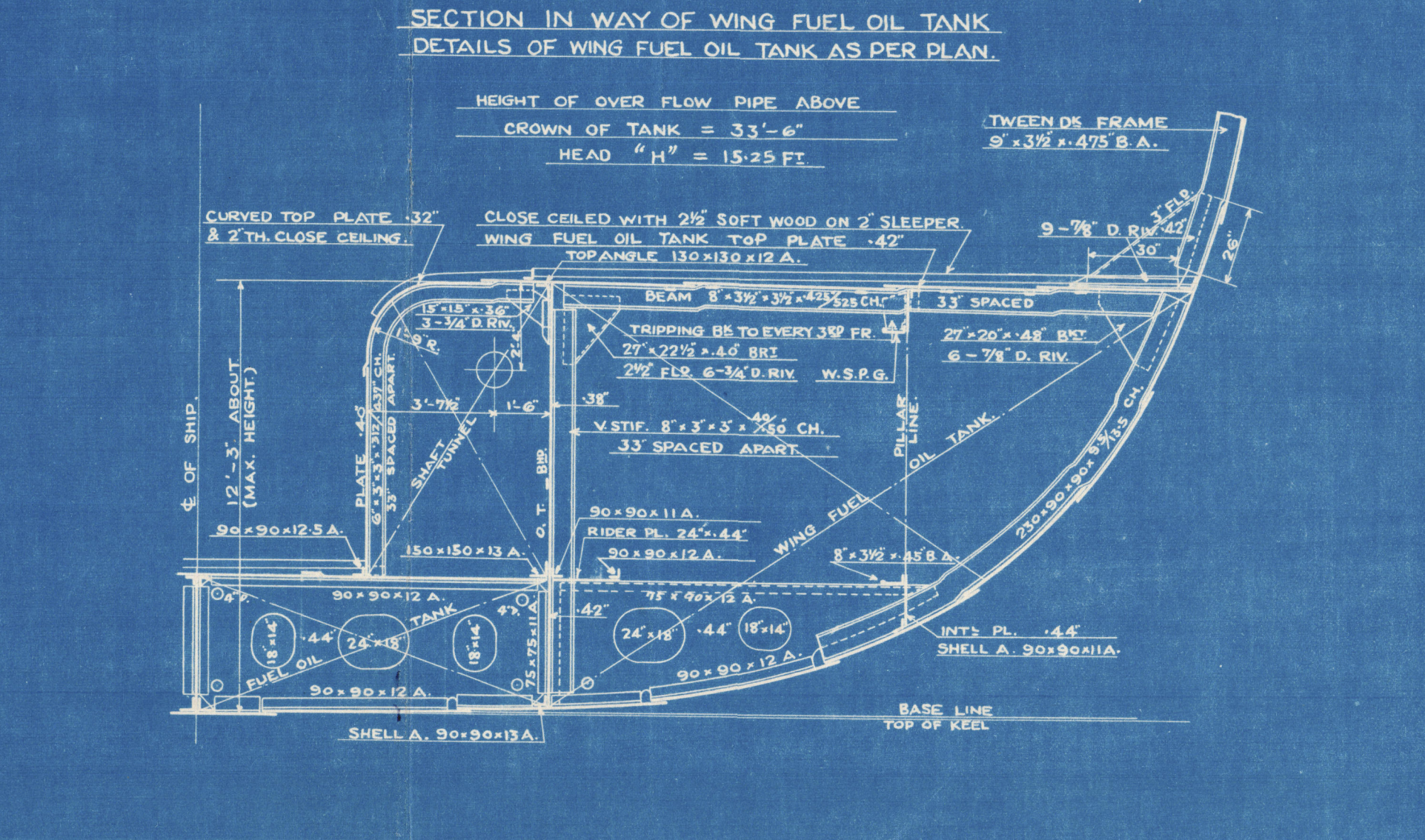
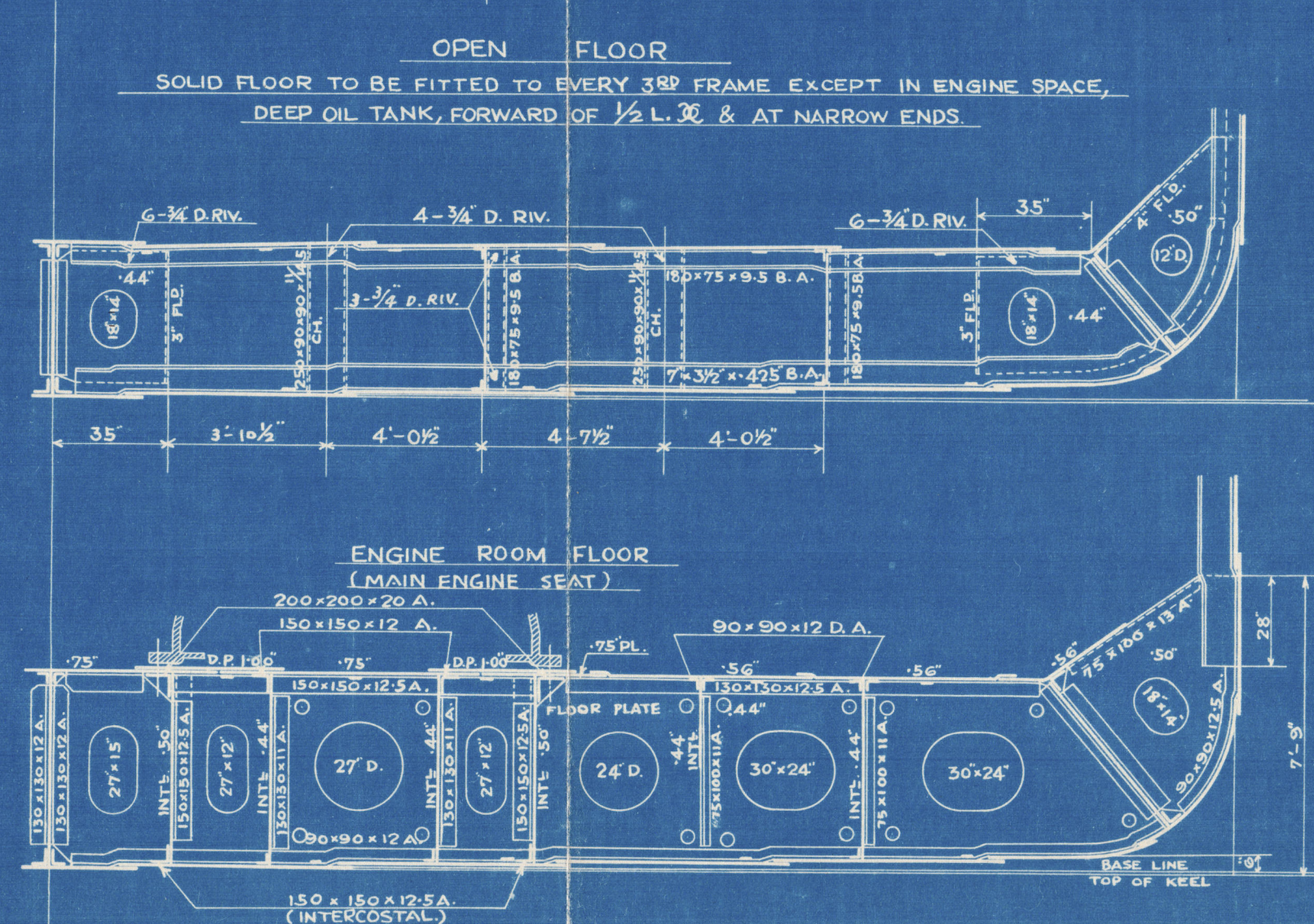


DECKS			
STRINGER PLATE	BOAT DECK	BRIDGE DECK	F&E DECK
" ANGLE	27' x 30'	30' x 32' x 40'	36'
SHELL ANGLE	75' x 75' x 7.5 A.	75' x 75' x 8 A.	90' x 90' x 9.5 A.
G. WATER WAY BAR	2 1/2' x 44' F.B.	2 1/2' x 44' F.B.	
DECK PLATE	25' TIE PLATE	25' TIE PLATE	36'
CURTAIN PLATE	12' x 30'	BULKWARK PLATE 26'	
WOOD PLANK	3' O.P. WHERE EXPOSED	3' O.P. WHERE EXPOSED	

TANK SIDE BRACKETS			
BRACKET PLATE	NO. 4.5 & 6 HOLDS	ENGINE ROOM	15% L. FROM STEM
GUSSET PLATE		CONTINUOUS	CONTINUOUS
TO FRAME		15' - 7 1/2' D. RIV.	15' - 7 1/2' D. RIV.
TO GUSSET		6' - 7 1/2' D. RIV.	7' - 7 1/2' D. RIV.
TO MARGIN PLATE		21' - 7 1/2' D. RIV.	15' - 7 1/2' D. RIV.
V. ANGLE ON MARGIN PL.		130' x 130' x 12.5 A.	130' x 130' x 12.5 A.
" ON FLOOR PL.		125' x 90' x 12 A.	125' x 90' x 12 A.
GUSSET PLATE		56'	48'
NO OF RIV IN WAY TO FRAME		22' - 7 1/2' D. RIV.	SIMILAR TO
NO OF RIV IN WAY TO T. TOP		20' - 7 1/2' D. RIV.	15% L. FROM STEM

FRAMINGS			
	FRAME	SPACE	
BOTH PEAKS		24'	
FORWARD OF 3/5 L. & ENDS		27'	
ELSE WHERE (RULE SPACE 33'-375')		33'	

RIVETING NOTE (END CONNECTION)			
	1/2 L. & ENDS	AT ENDS	
KEEL PLATE	LAPPED & 4 R.	LAPPED & 3 R.	
BOTTOM "	" 4 R.	" 3 R.	
SIDE "	" 3 R.	" 3 R.	
SHEER STRAKE	" 4 R.	" 3 R.	
BELOW	" 4 R.	" 3 R.	
F&E SIDE PLATE	" 4 R.	" 3 R.	
INNER BOTTOM "	" 4 R.	" 1 R.	
M.L. STRAKE	LAPPED & 3 R.	LAPPED & 2 R.	
OTHER "	LAPPED & 2 R.	" 2 R.	
MARGIN PLATE	LAPPED & 3 R.	" 3 R.	
CENTRE GIRDER	" 4 R.	" 3 R.	
UP DE STRINGER PL.	" 4 R.	" 3 R.	
" " PLATE	" 4 R.	" 3 R.	
2ND DE STRINGER PL.	LAPPED & 3 R.	" 2 R.	
" " PLATE	" 2 R.	" 1 R.	
3RD DE STRINGER PL.	" 1 R.	" 1 R.	
" " PLATE	" 1 R.	" 1 R.	
F&E DE STRINGER PL.	" 1 R.	" 1 R.	
" " PLATE	" 1 R.	" 1 R.	
BRIDGE DE STRINGER PL.	LAPPED & 2 R.	" 1 R.	
" " PLATE	" 1 R.	" 1 R.	
BOAT DE STRINGER PL.	" 2 R.	" 1 R.	
" " PLATE	" 1 R.	" 1 R.	



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RUDDER.

SCALE $\frac{1}{2}$ " TO 1 FOOT.

DETAIL SCALE 1" TO 1 FOOT.

(FINISH PLAN.)



Jan. 23rd 1933.



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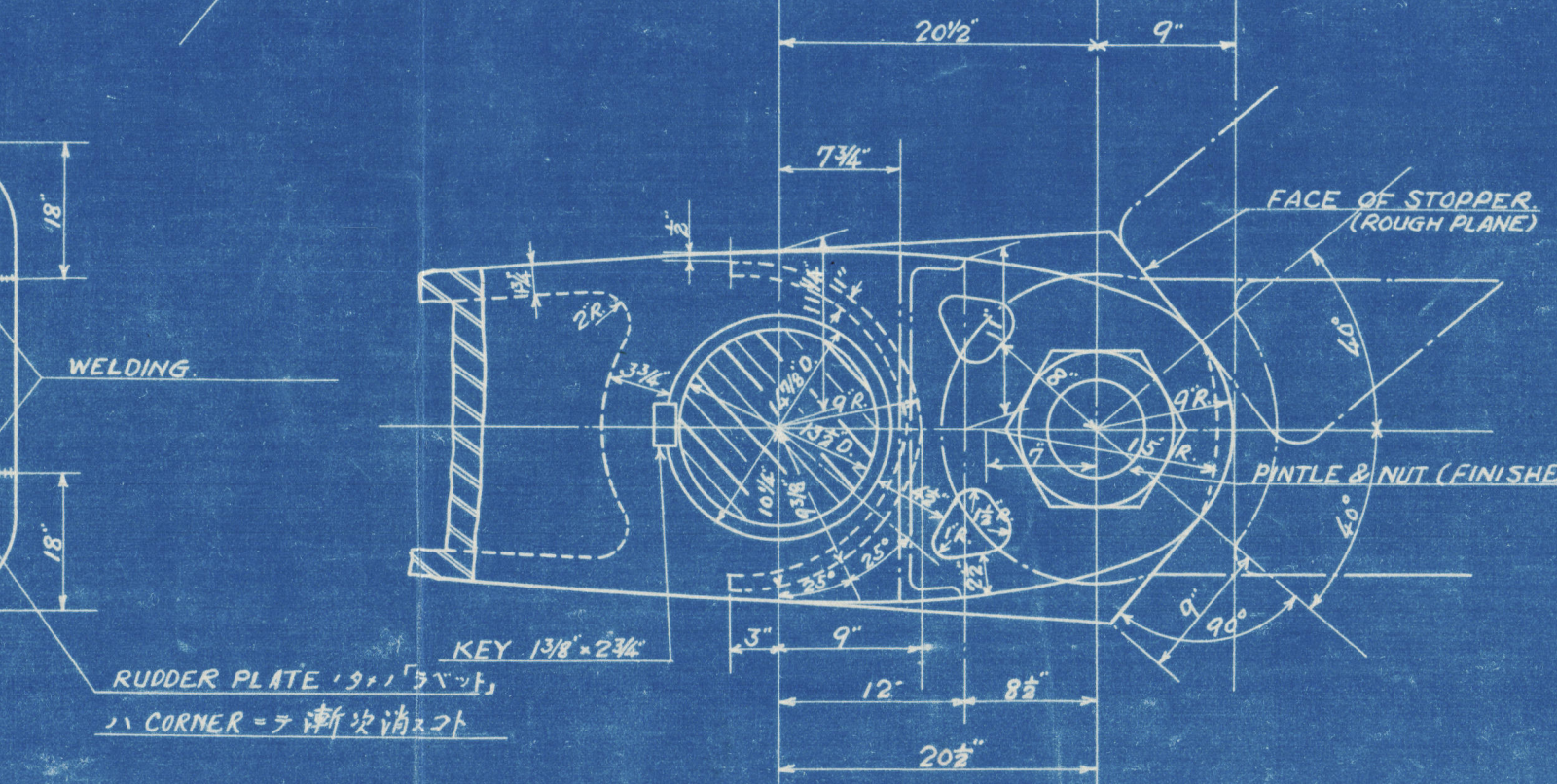
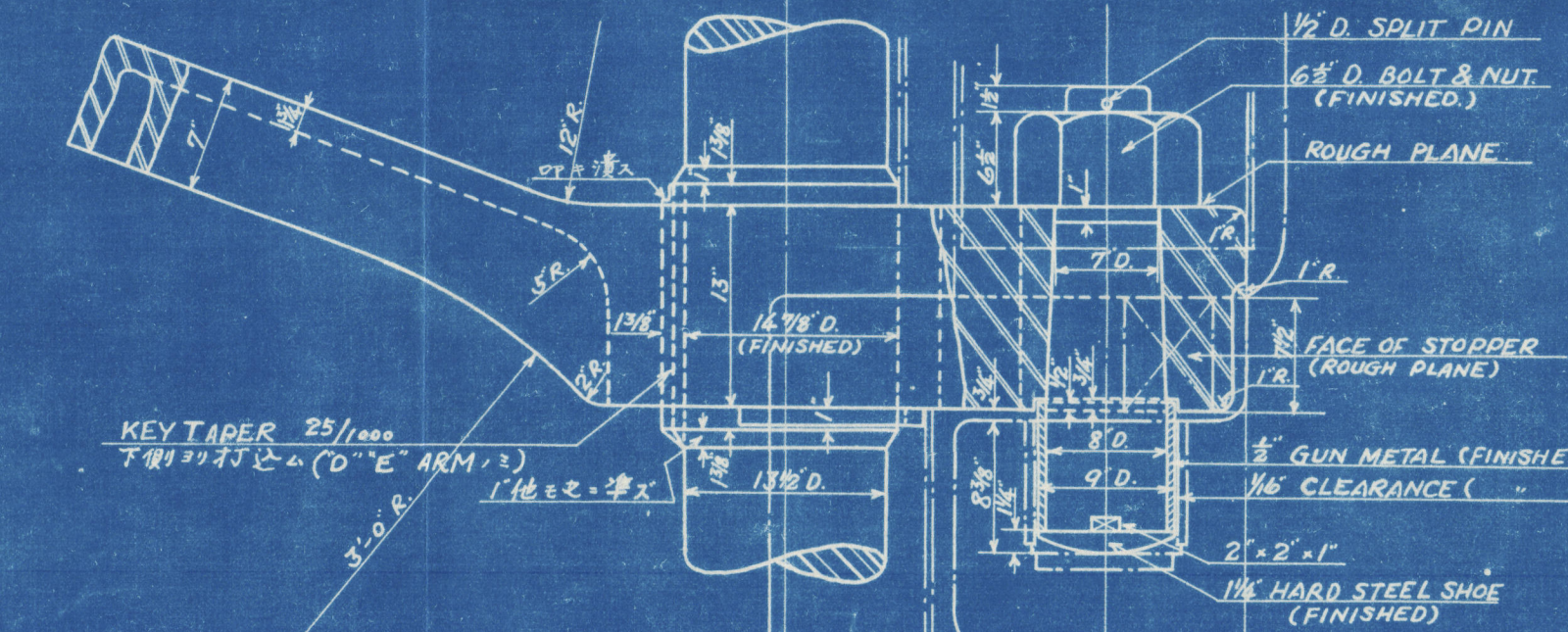
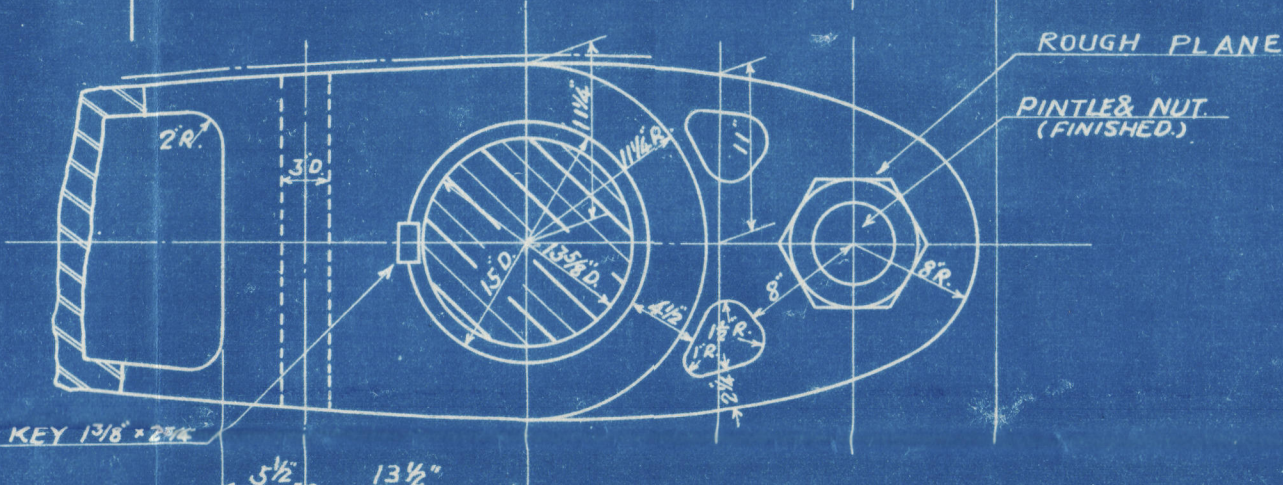
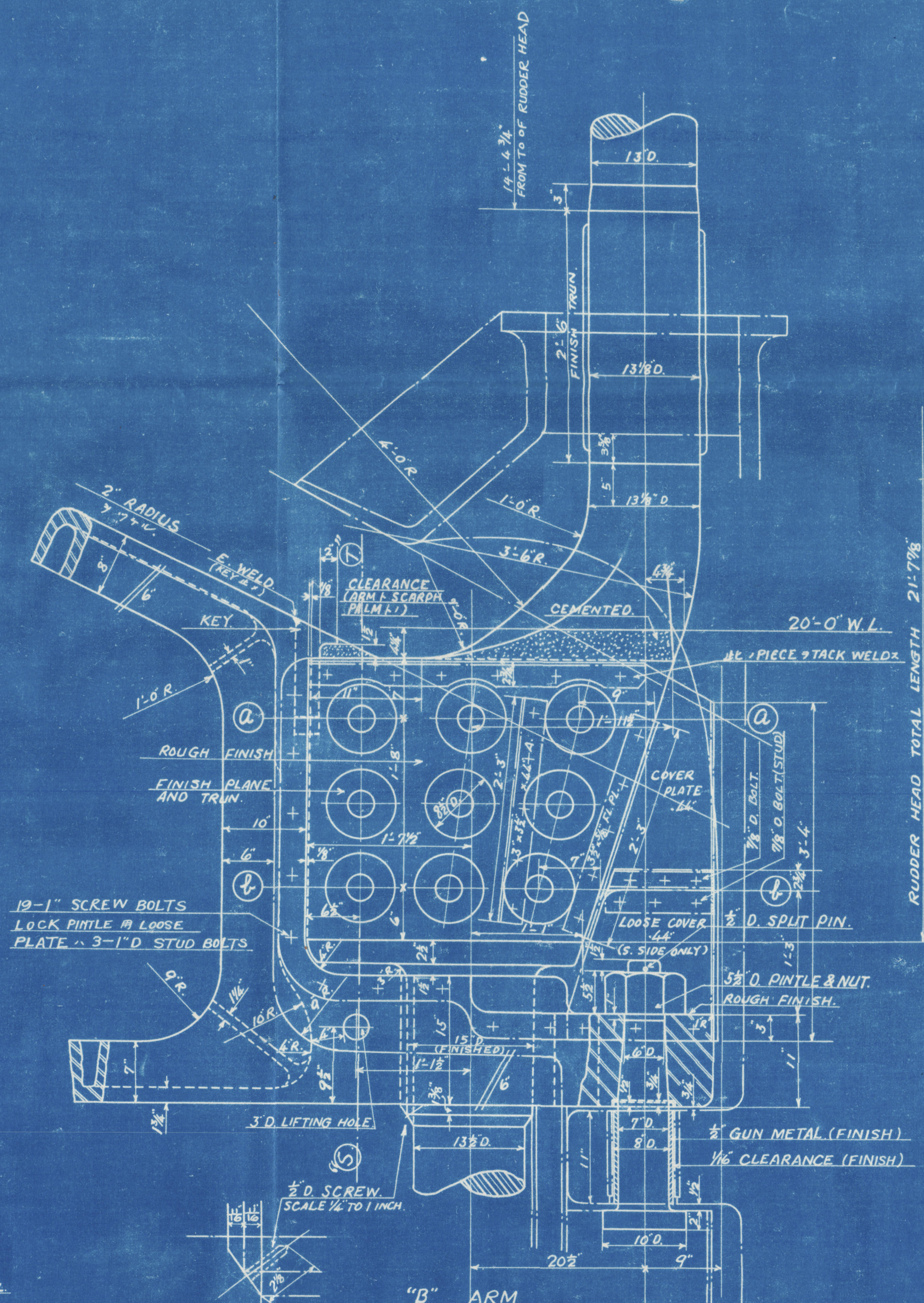
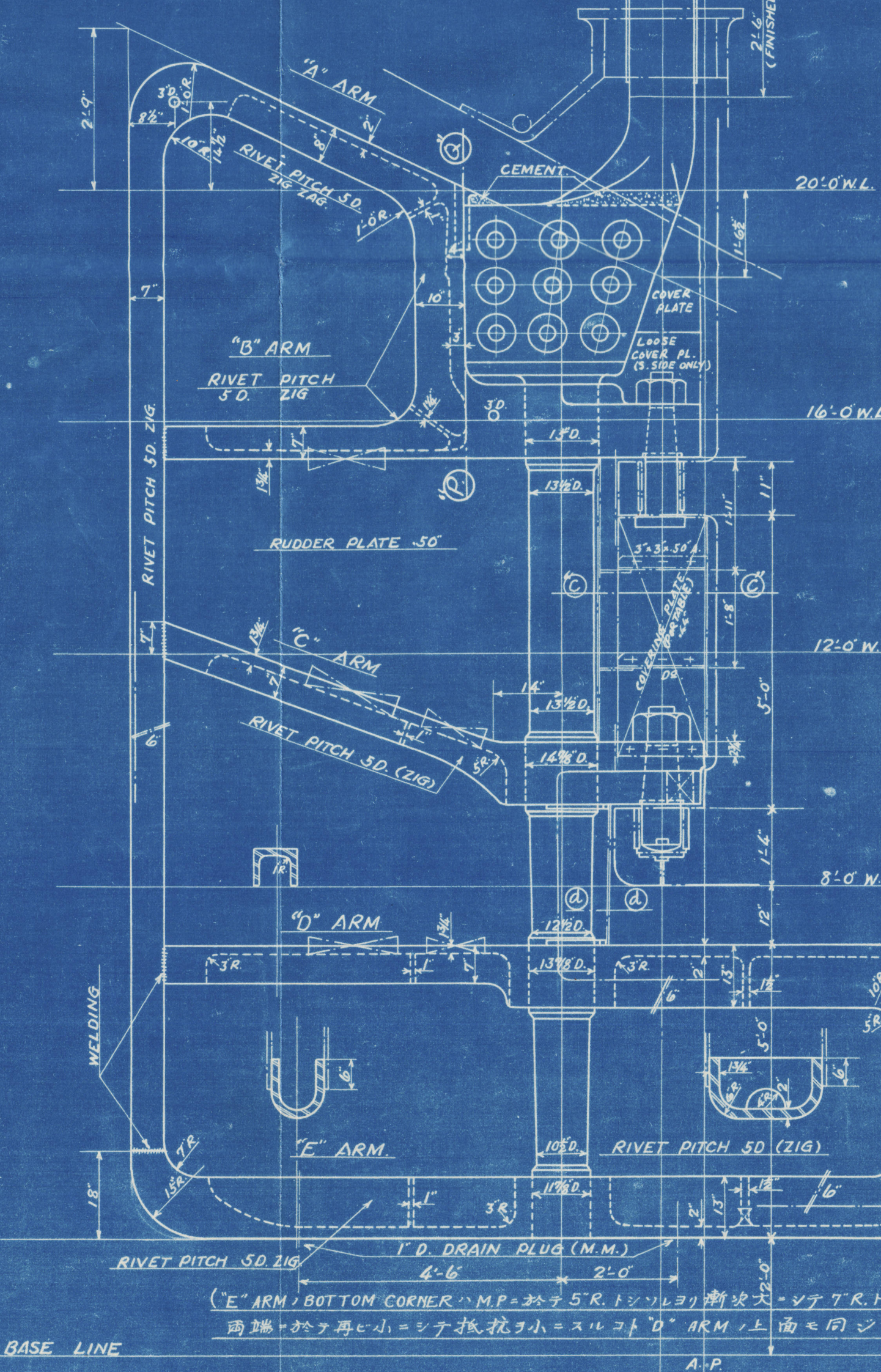
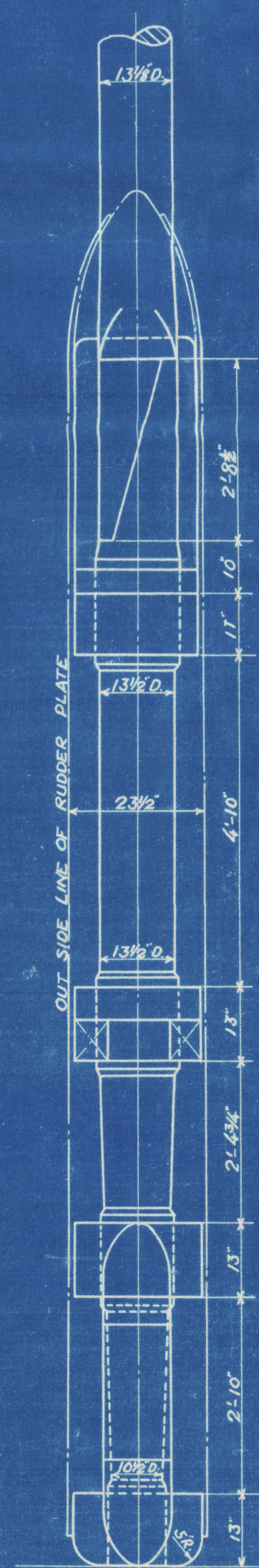
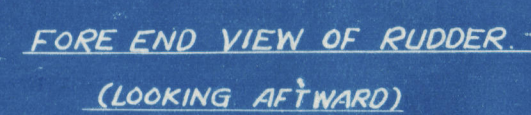
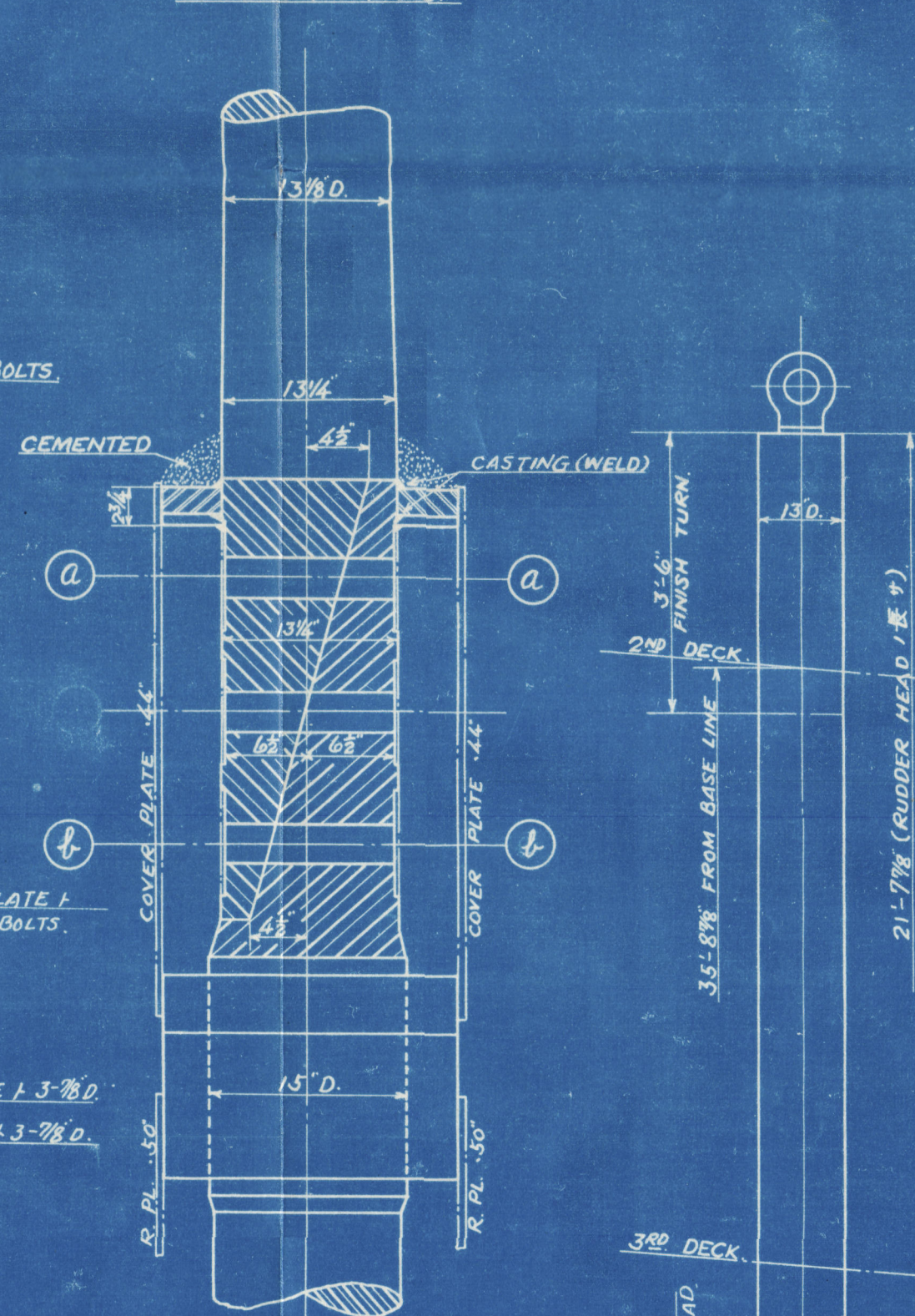
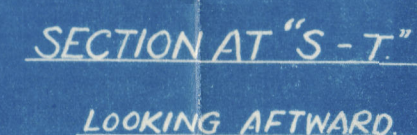
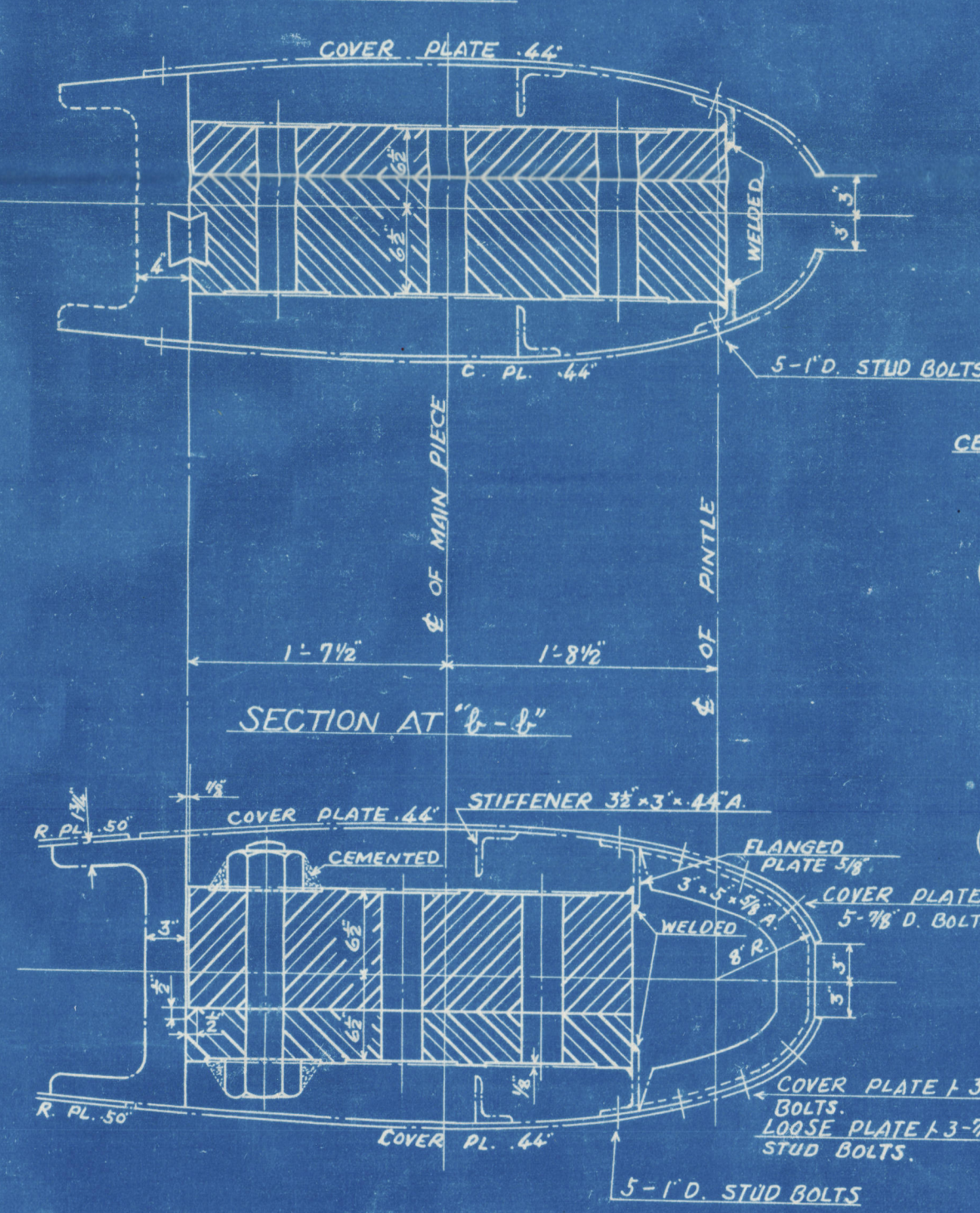
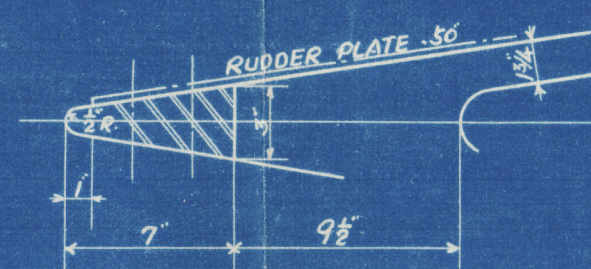
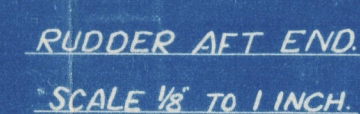
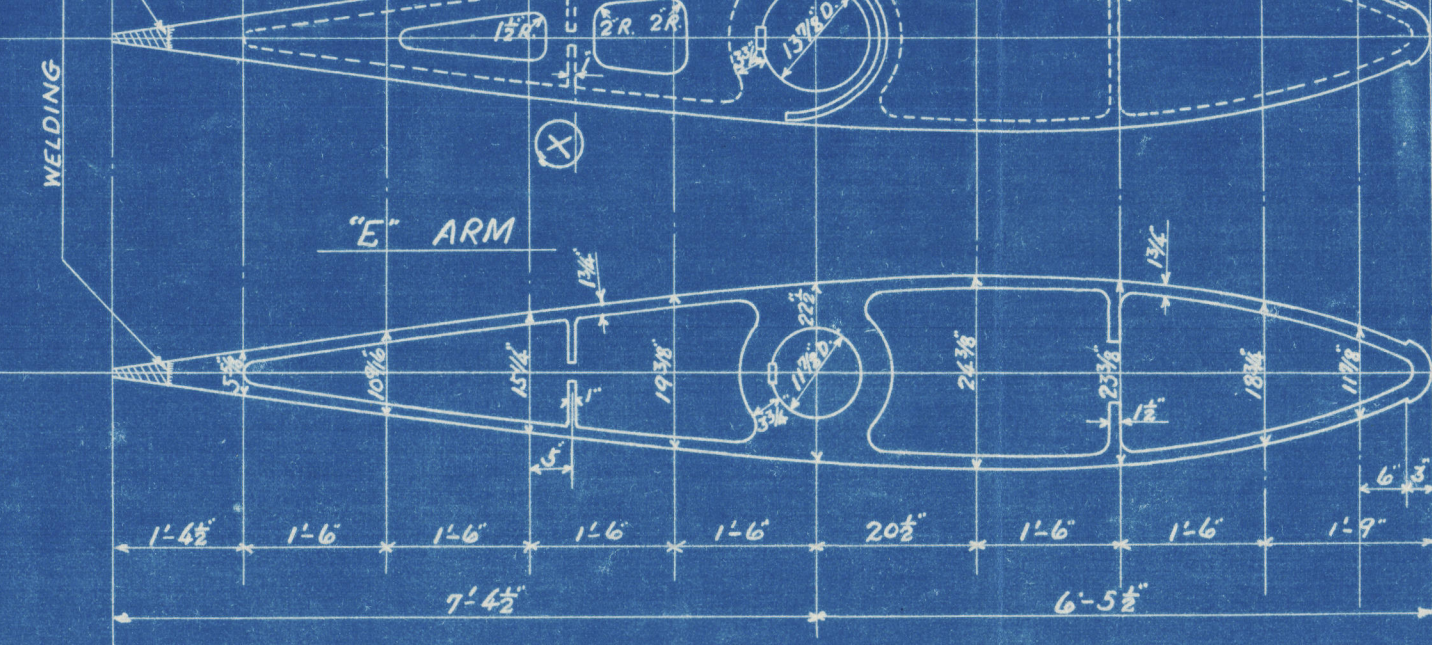
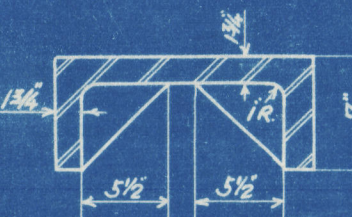
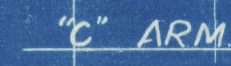
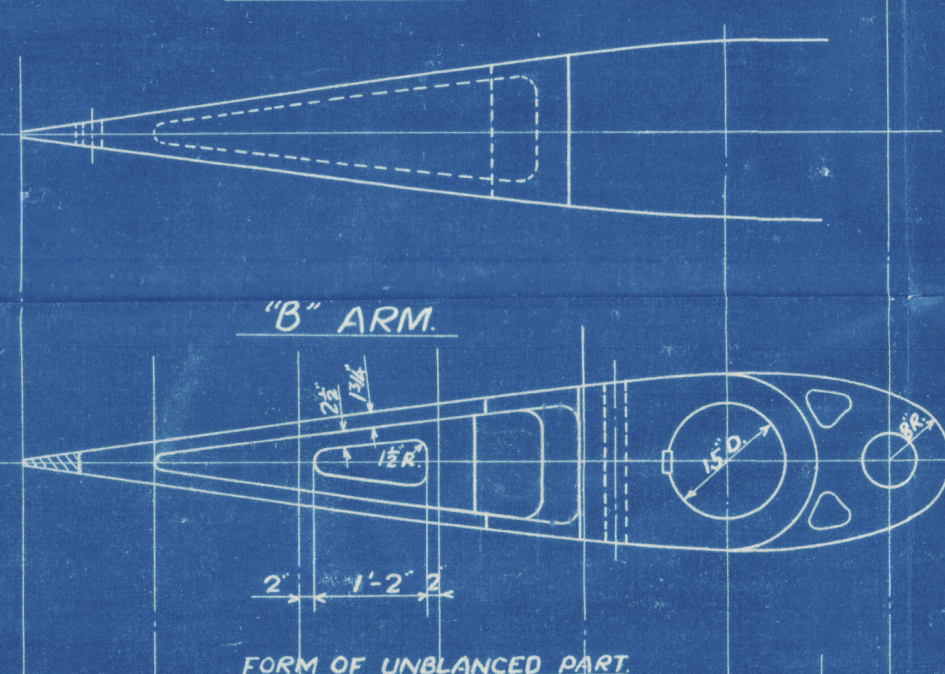
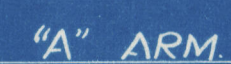
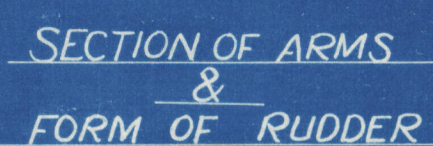
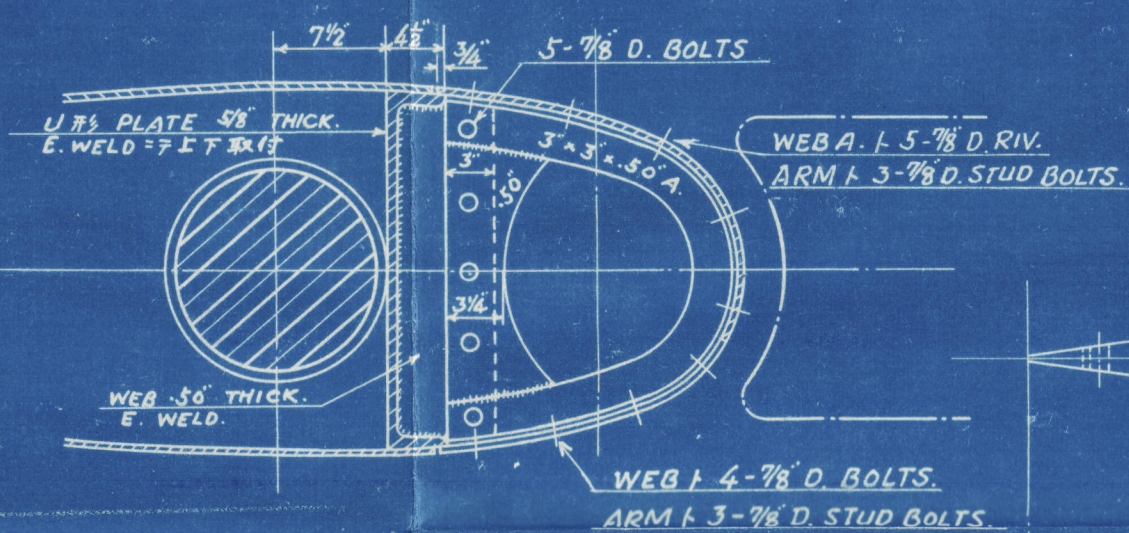
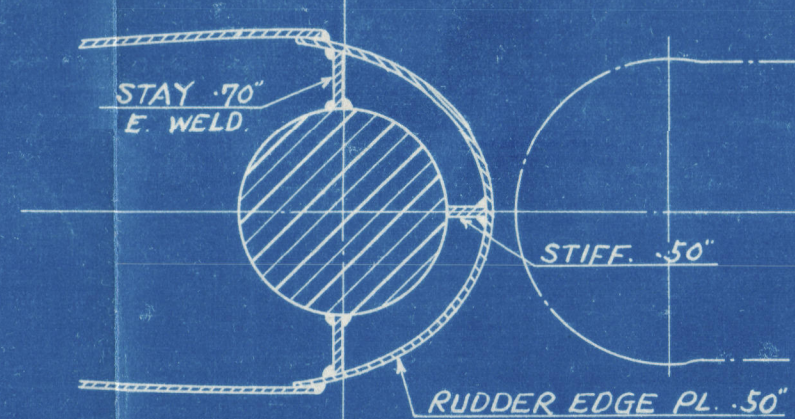
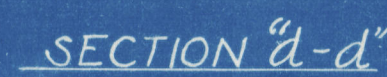
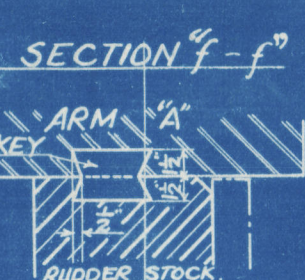
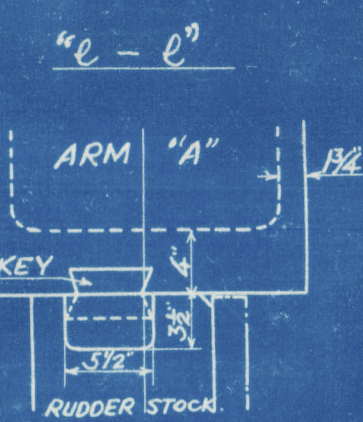
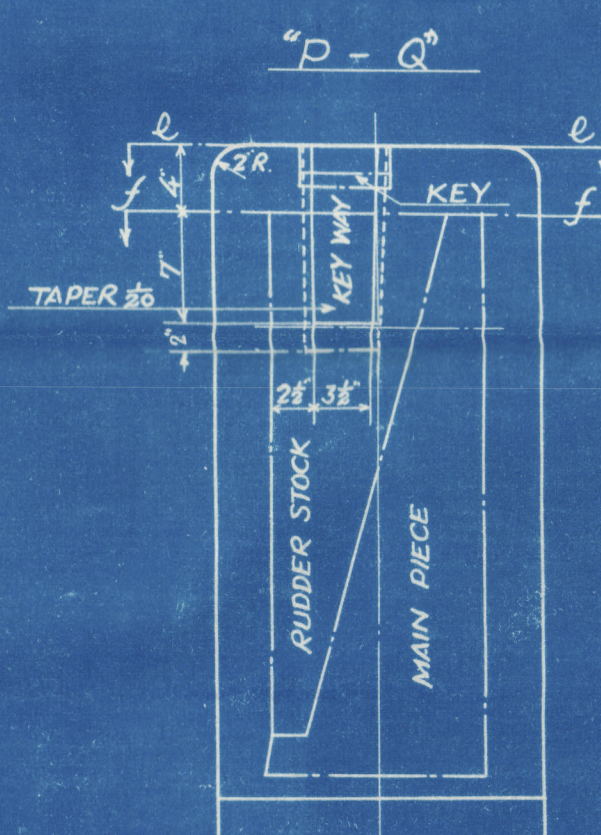
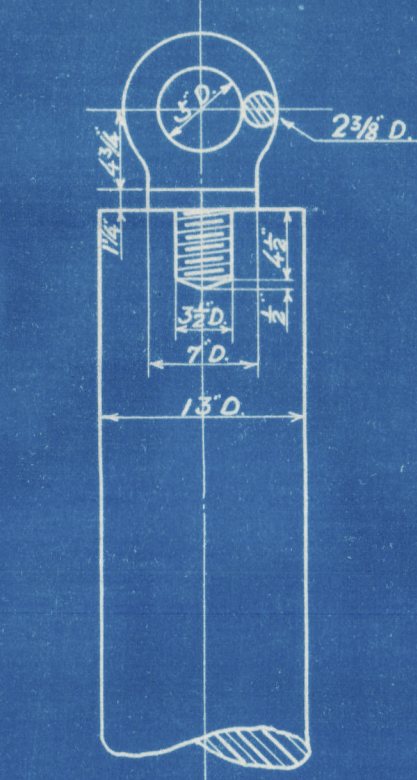
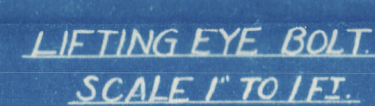
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1. ALL RIVETS AND TAP RIVETS TO BE 1" DIA EXCEPT THOSE OTHERWISE SPECIFIED.
2. IN-SIDE RUDDER SPACE NOT TO BE PACKED.
3. ALL BOLTS & NUTS TO BE WHITWORTH STANDARD SIZE.

SEA SPEED-----	14 $\frac{3}{4}$ KNOTS.
TOTAL RUDDER AREA-----	185.85
AREA (LLOYD'S RULE)-----	149.7 159.
A. x D.-----	776. 786.
DIA. OF RUDDER HEAD-----	13" DIA.

WEIGHT :~	
ARMS (A,B,C,D & E)-----	7.187 K. TONS.
RUDDER HEAD-----	5.235
MAIN PIECE-----	4.318
PLATE-----	3.235
TOTAL-----	20.344 TONS

RUDDER HEAD AND MAIN PIECE-----	FORGED STEEL.
ARMS-----	CAST STEEL.
EDGE PIECES -----	CAST STEEL.
PINTLES, BOLTS, NUTS, & EYE BOLT.-----	FORGED STEEL.



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RUDDER.
SCALE 1/2" TO 1 FOOT.
DETAIL SCALE 1" TO 1 FOOT.
(FINISH PLAN.)



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